

AIR QUALITY PERMIT

Issued To: Howell Petroleum Corporation
Elk Basin Northwest Battery No. 12
P.O. Box 1330
Houston, TX 77251-1330

Permit: #3299-00
Application Complete: 3/4/04
Preliminary Determination Issued: 4/13/04
Department's Decision Issued: 05/14/04
Permit Final: 06/02/04
AFS: #009-0005

An air quality permit, with conditions, is hereby granted to Howell Petroleum Corporation (Howell), pursuant to Sections 75-2-204 and 211 of the Montana Code Annotated (MCA), as amended, and Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Permitted Equipment

Permit #3299-00 is issued to Howell for the operation of an oil and gas production tank battery. The battery is known as the Elk Basin Northwest Battery No. 12. A complete list of the permitted equipment is contained in Section I.A of the permit analysis.

B. Plant Location

The battery is located approximately 3.5 miles northwest of Elk Basin, Wyoming, in Section 28, Township 9 South, Range 23 East, in Carbon County, Montana. The battery's office is located approximately 16 miles North of Powell, Wyoming, on Highway 295.

SECTION II. Conditions and Limitations

A. Emission Control Requirements

1. Howell shall limit the production through the 1,000-barrel (bbl) working oil tank (1-OT) to 49,300 barrels (bbls) of production during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
2. Howell shall vent emission from the 1000-bbl working oil tank to the continuous burn flare (2-F) (ARM 17.8.749).
3. Howell shall document, daily, the presence of flame at the continuous burn flare (2-F). This may be accomplished by visually determine the presence of the flame or by temperature recorder (ARM 17.8.749).
4. The emergency flare pit (9-EF) and the 300-bbl pop tank shall only be operated during emergency/non-routine situations (ARM 17.8.749).
5. The 300-bbl Pop tank (8-PT) shall be used to vent no more than 3.80 million standard cubic feet (MMSCF) of gas per rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).
6. The emergency flare pit (9-EF) shall be used to flare no more than 3.37 million standard cubic feet (MMSCF) of gas during any rolling 12-month time period (ARM 17.8.749 and ARM 17.8.1204).

7. Howell shall not cause or authorize emissions to be discharged into the outdoor atmosphere from any sources installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6-consecutive minutes (ARM 17.8.304).
8. Howell shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308).
9. Howell shall treat all unpaved portions of the haul roads, access roads, parking lots, or general plant area with water and/or chemical dust suppressant as necessary to maintain compliance with the reasonable precautions limitation in Section II.A.8 (ARM 17.8.749).

B. Inspection and Repair Requirements

1. Each calendar month, all fugitive piping components (valves, flanges, pump seals, open-ended lines) shall be inspected for leaks. For purposes of this requirement, detection methods incorporating sight, sound, or smell are acceptable (ARM 17.8.105 and ARM 17.8.749).
2. Howell shall (ARM 17.8.105 and ARM 17.8.749):
 - a. Make a first attempt at repair for any leak not later than 5 calendar days after the leak is detected; and
 - b. Repair any leak as soon as practicable, but no later than 15 calendar days after it is detected, except as provided in Section II.B.3.
3. Delay of repair of equipment for which a leak has been detected will be allowed if repair is technically infeasible without a source shutdown. Such equipment shall be repaired before the end of the first source shutdown after detection of the leak (ARM 17.8.749).

C. Operational Reporting Requirements

1. Howell shall supply the Department of Environmental Quality (Department) with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the emission inventory contained in the permit analysis and sources identified in Section I.A of the permit analysis.

Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. This information may be used to calculate operating fees, based on actual emissions from the facility, and/or to verify compliance with permit limitations (ARM 17.8.505). Howell shall submit the following information annually to the Department by March 1 of each year; the information may be submitted along with the annual emission inventory (ARM 17.8.505).

- a. The dates and times the 300-bbl Pop tank was operated;

- b. The reason(s) the 300-bbl Pop tank was operated for each time the Pop tank was operated;
 - c. The dates and times the emergency flare was operated; and
 - d. The reason(s) that the flare was operated for each time either flare was operated.
2. Howell shall notify the Department of any construction or improvement project conducted pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
 3. Howell shall document, by month, the production of the 1,000-bbl working oil tank (1-OT). By the 25th day of each month, Howell shall total the production of the 1,000-bbl working oil tank (1-OT) during the previous 12 months to verify compliance with the limitation in Section II.A.1. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
 4. Howell shall document, by month, the volume of gas flared at the emergency flare pit (9-EF). By the 25th day of each month, Howell shall total the volume of gas flared at the emergency flare pit (9-EF) during the previous 12 months to verify compliance with the limitation in Section II.A.3. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
 5. Howell shall document, by month, the volume of gas vented from the 300-bbl pop tank (8-PT). By the 25th day of each month, Howell shall total the volume of gas vented from the 300-bbl pop tank (8-PT) during the previous 12 months to verify compliance with the limitation in Section II.A.4. A written report of the compliance verification shall be submitted along with annual emission inventory (ARM 17.8.749).
 6. Howell shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204(3)(b). The annual certification shall comply with the certification requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information (ARM 17.8.1204).

D. Record Keeping Requirements

1. A record of each monthly leak inspection required by Section II.B.1 of this permit shall be kept on file with Howell. Inspection records shall include, at a minimum, the following information (ARM 17.8.749):
 - a. Date of inspection;
 - b. Findings (may indicate no leaks discovered or location, nature, and severity of each leak);

- c. Leak determination method;
 - d. Corrective action (date each leak repaired and reasons for any repair interval in excess of 15 calendar days); and
 - e. Inspector's name and signature.
2. Howell shall compile records in accordance with this permit. Howell shall maintain all records as a permanent business record for at least 5 years following the date of the measurement. Records must be available for inspection by the Department, and must be submitted to the Department upon request (ARM 17.8.749).

E. Testing Requirements

1. The Department may require testing (ARM 17.8.105).
2. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

SECTION III: General Conditions

- A. Inspection – Howell shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver – The permit and the terms, conditions, and matters stated herein shall be deemed accepted if Howell fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations – Nothing in this permit shall be construed as relieving Howell of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement – Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement action as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals – Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The Department's decision on the application is not final unless 15 days have elapsed and there is no request for a hearing under this section. The filing of a request for a hearing postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board.
- F. Permit Inspection – As required by ARM 17.8.755, Inspection of Permit, a copy the air quality permit shall be made available for inspection by the Department at the location of the source.

- G. Permit Fee – Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay the annual operation fee by Howell may be grounds for revocation of this permit, as required by that section and rules adopted thereunder by the Board.

Permit Analysis
Howell Petroleum Corporation
Elk Basin Northwest Battery No. 12
Permit #3299-00

I. Introduction/Process Description

Howell Petroleum Corporation (Howell) owns and operates an oil and gas production battery located approximately 3.5 miles Northwest of Elk Basin, Wyoming, in Section 28, Township 9 South, Range 23 East, in Carbon County, Montana. The battery is known as the Elk Basin Northwest Battery No. 12.

Elk Basin Northwest Battery No.12 was constructed prior to November 23, 1968. However, since 1968, new wells have been drilled by both previous and current operators, which may have increased the facility's Potential to Emit (PTE) of airborne pollutants by more than 25 tons per year. Howell stated in Permit Application #3299-00 that an accurate assessment of the actual increases caused by the post-1968 facility modifications (drilling of new wells) is difficult to determine due to the number of new wells drilled and the various operators during this time period. Therefore, Howell submitted a permit application to ensure compliance with the Administrative Rules of Montana (ARM) 17.8.743(1)(d).

A. Permitted Equipment

The facility consists of the following equipment:

Source I.D.	Description	Year Constructed
1-OT	1000-(bbl) Working Oil Tank*	Before 11/23/68
2-F	Flare	2003
3-BT	1000-bbl Bad Oil Tank	Before 11/23/68
4-WT	1000-bbl Water Tank	Before 11/23/68
5-HT	0.8-MMBtu/hr Heater Treater**	Before 11/23/68
6-FE	Fugitive Emissions	N/A
7-PD	Fugitive Emissions (Pneumatic Devices)	N/A
8-PT	300-bbl Pop Tank	Before 11/23/68
9-EF	Emergency Flare Pit	Before 11/23/68

*barrel (bbl)

** Million British thermal units per hour (MMBtu/hr)

B. Source Description

The Elk Basin Northwest Battery No. 12, owned and operated by Howell, consists of the above-listed equipment. Air emissions from this battery are control by a continuous pilot, automatic spark ignited flare. Therefore, in accordance with ARM 17.8.740(6), this battery meets the definition of a facility and Howell applied for an air quality permit.

Oil & Gas is routed through the heater treater. The heater treater separates the oil and gas. The oil is then routed to a 1000-bbl working tank and the gas is routed to a gas separator to be sent to the Elk Basin Gas Plant via pipeline. Any fluids from the gas separator and/or the rejected oil from the lease operated custody transfer (LACT) unit are routed to a 1000-bbl bad oil tank. Water from the treater is routed to a 1000-bbl water tank until hauled for disposal by tank truck.

Oil from the storage tanks is sold via the LACT unit. The vapors from the working tank are routed to a continuous-burn flare for combustion. Any pressure relief gas is vented to the onsite 300-bbl pop tank and through the emergency flare.

II. Applicable Rules and Regulations

The following are partial explanations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARMs and are available, upon request, from the Department of Environmental Quality (Department). Upon request, the Department will provide references for location of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 – General Provisions, including but not limited to:

1. ARM 17.8.101 Definitions. This rule includes a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
2. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emission of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment (including instruments and sensing devices) and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
3. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Howell shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

4. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation or to continue for a period greater than 4 hours.
5. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means that, without resulting in reduction of the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner as to create a public nuisance.

B. ARM 17.8, Subchapter 2 – Ambient Air Quality, including, but not limited to the following:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide

7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Howell must maintain compliance with the applicable ambient air quality standards.

C. ARM 17.8, Subchapter 3 – Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Howell shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This rule requires that no person shall cause, allow or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. This rule requires that no person shall burn liquid, solid, or gaseous fuel in excess of the amount set forth in this rule.
6. ARM 17.8.324 Hydrocarbon Emissions--Petroleum Products. (3) No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule.
7. ARM 17.8.340 Standard of Performance for New Stationary Sources and Emission Guidelines for Existing Sources. This rule incorporates, by reference, 40 CFR 60, Standards of Performance for New Stationary Sources (NSPS).

40 CFR 60, Subpart K – Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstructions, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978, does not apply because the facility was constructed prior to June 11, 1973. In addition, this subpart does not apply to storage vessels for petroleum or condensate stored, processed, or treated at production facilities prior to custody transfer.

40 CFR 60 Subpart Ka – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and prior to July 23, 1984, does not apply because the tanks were constructed prior to May 18, 1978. In addition, each petroleum liquid storage vessel with a capacity of less than 420,000 gallons used for petroleum or condensate stored, processed, or treated prior to custody transfer is exempt from the requirements of this subpart.

40 CFR 60, Subpart Kb – Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984, is not applicable to any of the tanks at the facility because the tanks were constructed prior to July 23, 1984. In addition, this subpart does not apply to vessels with a design capacity less than or equal to 1,589,874 cubic meters (M³) used for petroleum or condensate stored, processed, or treated prior to custody transfer.

8. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR 63, shall comply with the requirements of 40 CFR 63, as listed below:

40 CFR 63, Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities. Owners or operators of oil and natural gas production facilities, as defined and applied in 40 CFR Part 63, shall comply with the applicable provisions of 40 CFR Part 63, Subpart HH. In order for an oil and natural gas production facility to be subject to 40 CFR Part 63, Subpart HH requirements, certain criteria must be met. First, the facility must be a major source of Hazardous Air Pollutants (HAP) as determined according to paragraphs (a)(1)(i) through (a)(1)(iii) of 40 CFR 63, Subpart HH. Second, a facility that is determined to be major for HAPs must also either process, upgrade, or store hydrocarbon liquids prior to the point of custody transfer, or process, upgrade, or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. Third, the facility must also contain an affected source as specified in paragraphs (b)(1) through (b)(4) of 40 CFR Part 63, Subpart HH. Finally, if the first three criteria are met, and the exemptions contained in paragraphs (e)(1) and (e)(2) of 40 CFR Part 63, Subpart HH do not apply, the facility is subject to the applicable provisions of 40 CFR Part 63, Subpart HH. Based on the information submitted by Howell, the Elk Basin Northwest Battery #12 facility is not subject to the provisions of 40 CFR Part 63, Subpart HH because the facility is not a major source of HAPs.

- D. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation and Open Burning Fees, including, but not limited to:

1. ARM 17.8.504 Air Quality Permit Application Fees. This rule requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Howell submitted the appropriate permit application fee for the current permit action.
2. ARM 17.8.505 When Permit Required--Exclusions. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit (excluding an open burning permit) issued by the Department. The air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions that prorate the required fee amount.

- E. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a person to obtain an air quality permit or permit alteration to construct, alter or use any air contaminant sources that have the PTE greater than 25 tons per year of any pollutant. The Howell facility has a PTE greater than 25 tons per year of VOC; therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration or use of a source. Howell submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Howell submitted an affidavit of publication of public notice for the 12/18/03 issue of the *Carbon County News*, a newspaper of general circulation in the Town of Red Lodge in Carbon County, as proof of compliance with the public notice requirements.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana, and rules adopted under those acts.
 7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that Best Available Control Technology (BACT) shall be utilized. The BACT analysis is discussed in Section III of this permit analysis.
 8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available, for inspection by the Department at the location of the source.
 9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Howell of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
 10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.

11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
 12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the FCAA, rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
 13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, subchapters 8, 9, and 10.
 14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of Intent to Transfer, including the names of the transferor and the transferee, is sent to the Department.
- F. ARM 17.8, Subchapter 8 – Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications--Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the FCAA that it would emit, except as this subchapter would otherwise allow.

This facility is not a major stationary source since this facility is not a listed source and the facility's PTE is below 250 tons per year of any pollutant (excluding fugitive emissions).

- G. ARM 17.8, Subchapter 12 – Operating Permit Program Applicability, including, but not limited to:
1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of the FCAA is defined as any source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one HAP, PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or

- c. PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program. (1) Title V of the FCAA amendments of 1990 requires that all sources, as defined in ARM 17.8.1204(1), obtain a Title V Operating Permit. In reviewing and issuing Air Quality Permit #3299-00 for Howell, the following conclusions were made:
- a. The facility's PTE is less than 100 tons/year for any pollutant.
 - b. The facility's PTE is less than 10 tons/year for any one HAP and less than 25 tons/year for all HAPs.
 - c. This source is not located in a serious PM₁₀ nonattainment area.
 - d. This facility is not subject to any current NSPS.
 - e. This facility is not subject to any current NESHAP standards.
 - f. This source is not a Title IV affected source, nor a solid waste combustion unit.
 - g. This source is not an EPA designated Title V source.
 - h. As allowed by ARM 17.8.1204(3), the Department may exempt a source from the requirement to obtain an air quality operating permit by establishing federally enforceable limitations which limit that source's PTE.
 - i. In applying for an exemption under this section, the owner or operator of the source shall certify to the Department that the source's PTE, does not require the source to obtain an air quality operating permit.
 - ii. Any source that obtains a federally enforceable limit on PTE shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit.

Howell has taken federally enforceable permit limits to keep potential emissions below major source permitting thresholds. Therefore, the facility is not a major source and, thus a Title V operating permit is not required.

The Department determined that the annual reporting requirements contained in the permit are sufficient to satisfy the synthetic minor requirement.

3. ARM 17.8.1207 Certification of Truth, Accuracy, and Completeness.

Howell shall annually certify that its actual emissions are less than those that would require the source to obtain an air quality operating permit as required by ARM 17.8.1204 (3)(b). The annual certification shall comply with requirements of ARM 17.8.1207. The annual certification shall be submitted along with the annual emission inventory information.

Based on these facts, the Department determined that Howell's Elk Basin Northwest Battery #12 is a synthetic minor source of emissions as defined under Title V.

III. BACT Determination

A BACT determination is required for each new or altered source. Howell shall install on the new or altered source the maximum air pollution control capability which is technically practicable and economically feasible, except that BACT shall be used.

Control equipment alternatives for tank batteries can be no additional controls, the use of vapor recovery units or the use of a flare. All three of these control systems are technically feasible and on that basis, vapor recovery would be the best and continuous burn flare would be second and no additional controls would be third. For the Elk Basin Northwest Battery #12 the use of a continuous burn flare was selected as control for the following reasons.

A continuous burn flare was selected for this project because it not only eliminated the uncontrolled venting of Hydrogen Sulfide, but also reduces the amount of VOC released to the atmosphere through combustion.

No additional controls was not chosen due to the uncontrolled release of gasses containing Hydrogen Sulfide in concentrations up to 15%. The release of Hydrogen Sulfide is not acceptable since this gas is highly toxic at low concentrations.

Vapor recovery was not selected due to the small amount of gas being emitted from the tank battery. In order for this gas to be routed to a central gas pipeline, gas pressure would have to increase for the relief gas to enter into the pipeline. The cost associated with the equipment to increase the pressure and the relatively small volume of gas generated the use of vapor recovery was determined to be economically unreasonable.

IV. Emission Inventory

Source I.D.#	Source	Tons/year						
		PM	NO _x	CO	VOC	SO _x	HAPs	H ₂ S
1-OT	1000-bbl Working Oil Tank	-----	-----	-----	-----	-----	-----	-----
2-F	Flare	0.03	0.52	1.04	3.72	5.46	0.06	0.06
3-BT	1000-bbl Bad Oil Tank	-----	-----	-----	1.88	-----	0.20	-----
4-WT	1000-bbl Water Tank	-----	-----	-----	-----	-----	-----	-----
5-HT	0.8-MMBtu/hr Heater Treater	0.05	0.67	0.57	0.04	-----	0.01	-----
6-FE	Fugitive Emissions (Piping)	-----	-----	-----	5.61	-----	0.06	0.04
7-PD	Fugitive Emissions (Pneumatic Devices)	-----	-----	-----	0.19	-----	-----	-----
8-PT	300-bbl Pop Tank	-----	-----	-----	85.77	-----	0.03	21.28
9-EF	Emergency Flare Pit	0.02	0.35	0.69	1.29	43.17	-----	0.47
Totals		0.10	1.54	2.30	98.50	48.63	0.36	21.85

1,000-bbl Working Oil Tank (1-OT, 2-F)

Permit Limitation – 135 bbl/day

(Requested by Company)

Control efficiency estimated to be 98% for Continuous-Burn Flare

(Company Information)

Fuel Consumption: 625 scf/hr

(Company Information)

Control Efficiency: 98%

(Company Information)

Heat Content: 1462 BTU/scf

(Company Information)

Specific Gravity: 1.285

(Company Information)

Heat Input Rate: 0.8601 mmBTU/hr

(Company Information)

Fuel Consumption: 601 scf/hr

(Actual Fuel Consumption)

Permit Limitation: 8760 hours

(Company Requested)

VOC Emissions:

Standing and working losses = $3738.47 \text{ lb/yr} * 0.0005 \text{ ton/lb} * (1.0 - 0.98) = 0.037 \text{ ton/yr}$ (EPA Tanks 4.0)
Flashing losses = $42.06 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} * (1.0 - 0.98) = 3.68 \text{ ton/yr}$ (EPA Tanks 4.0)
Total losses = $0.037 \text{ ton/yr} + 3.68 \text{ ton/yr} = 3.72$

NOx Emissions

Emission Factor: 0.138 lb/mmBTU (1983 CMA "A Report on a Flare Efficiency Study")
Calculation: $0.8601 \text{ mmBTU/Hr} * 0.138 \text{ lbs/mmBTU} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lbs} = 0.52 \text{ ton/yr}$

CO Emissions

Emission Factor: 0.2755 lb/mmBTU (1983 CMA "A Report on a Flare Efficiency Study")
Calculation: $0.8601 \text{ mmBTU/Hr} * 0.2755 \text{ lb/mmBTU} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lbs} = 1.04 \text{ ton/yr}$

SO₂ Emissions

Emission Factor: 0.002075 lb/scf (Based on H₂S concentration of 1.11% by weight in flare gas)
Calculation: $601 \text{ scf/hr} * 0.002075 \text{ lb/scf} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lbs} = 5.46 \text{ ton/yr}$

PM10 emissions:

Emission Factor: 0.000011 lb/scf (AP-42, Chapter 13.5 Industrial Flares 9/91)
Calculation: $601 \text{ scf/hr} * 0.000011 \text{ lb/scf} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lbs} = 0.03 \text{ ton/yr}$

HAP Emissions:

Standing and working losses
Basis for Speciation Factors: EPA Speciate Program Profile No. 1210 – Pipeline Terminal Tanks

HAP	Speciation Factor (% HAP in vapor phase)	VOC Emissions (ton/yr)	Control Efficiency (%)	HAP Emissions (ton/yr)
Benzene	0.0054	3.72	98	0.0004
Toluene	0.0559	3.72	98	0.0042
Ethylbenzene	0.0073	3.72	98	0.0005
Xylene	0.0089	3.72	98	0.0007
Tolulene	0.0303	3.72	98	0.0023
Total HAPs from Tanks				0.0081 ton/yr

Flashing losses = $0.001 \text{ lb/hr} * 8760 \text{ hr/yr} * 0.0005 \text{ ton/lb} * (1.0 - 0.98) = 0.0001 \text{ ton/yr}$
Total losses = $0.0081 + 0.0001 = 0.0082 \text{ ton/yr}$

H₂S Emissions

0.06 ton/yr (HYSIS Flash Emission Estimation Program V.3.1)

1,000-bbl Bad Oil Tank (3-BT)

VOC Emissions:

Standing and working losses = $3750.30 \text{ lb/yr} * 0.0005 \text{ ton/lb} = 1.88 \text{ ton/yr}$
Flashing losses = No flash emissions result from this tank
Total losses = $1.88 \text{ ton/yr} + 0.00 \text{ ton/yr} = 1.88$

HAP Emissions:

Standing and working losses
Basis for Speciation Factors: EPA Speciate Program Profile No. 1210 – Pipeline Terminal Tanks

HAP	Speciation Factor (% HAP in vapor phase)	VOC Emissions (ton/yr)	Control Efficiency (%)	HAP Emissions (ton/yr)
Benzene	0.0054	1.88	0	0.0102
Toluene	0.0559	1.88	0	0.1051
Ethylbenzene	0.0073	1.88	0	0.0137
Xylene	0.0089	1.88	0	0.0167
<u>Tolulene</u>	<u>0.0303</u>	<u>1.88</u>	<u>0</u>	<u>0.0570</u>
Total HAPs from Tanks				0.2027 ton/yr

Flashing losses = No flash emissions result from this tank

Total losses = 0.2027 + 0.00 = 0.203

0.8 MMBtu/hr Heater Treaters (5-HT)

Fuel Consumption: 0.8 MMBtu/hr

Fuel Heating Value: 520 Btu/Scf

PM Emissions (PM emissions include PM₁₀ and PM_{2.5}):

Emission Factor: 7.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)

Calculations: 7.6 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.01 lb/hr
0.01 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.05 ton/yr

NO_x Emissions:

Emission Factor: 100 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)

Calculations: 100 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.15 lb/hr
0.15 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.67 ton/yr

CO Emissions:

Emission Factor: 84 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)

Calculations: 84 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.13 lb/hr
0.13 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.57 ton/yr

VOC Emissions:

Emission Factor: 5.5 lb/MMScf (AP-42, Chapter 1, Table 1.4-2, 7/98)

Calculations: 5.5 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.008 lb/hr
0.008 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr

SO₂ Emissions:

Emission Factor: 0.6 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98)

Calculations: 0.6 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.0009 lb/hr
0.0009 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.004 ton/yr

HAP Emissions:

Emission Factor: 1.88 lb/MMScf (AP-42, Chapter 1, Table 1.4-1, 7/98 (*sum of all HAPs listed))

Calculations: 1.88 lb/MMScf * 1 MMScf/520 MMBtu * 0.8 MMBtu/hr = 0.0029 lb/hr
0.0029 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.01 ton/yr

Fugitive Emissions – Piping (6-FE)

VOC Emissions

Basis for Emission Factors: EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017)

Connector (Oil): 151 components in light oil service (>=20 API Gravity)

Emission Factor: 0.000210 kg/hr - component or 0.0111 lb/day - component

Calculation: 151 components * 0.0111 lb/day-component * 365 day/yr * 0.0005 ton/lb = 0.31 ton/yr

Connector (Gas): 232 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0002 kg/hr - component or 0.0106 lb/day - component
 Calculation: $232 \text{ components} * 0.0106 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.45 \text{ ton/yr}$

Total connector emissions (Oil & gas) = 0.31 ton/yr + 0.45 ton/yr = 0.76 ton/yr

Flange (Oil): 62 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.00011 kg/hr - component or 0.0058 lb/day - component
 Calculation: $62 \text{ components} * 0.0058 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.07 \text{ ton/yr}$

Flange (Gas): 38 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.00039 kg/hr - component or 0.0206 lb/day - component
 Calculation: $38 \text{ components} * 0.0206 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.14 \text{ ton/yr}$

Total flange emissions (Oil & gas) = 0.07 ton/yr + 0.14 ton/yr = 0.21 ton/yr

Open-Ended Lines (Oil): 5 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0014 kg/hr - component or 0.0741 lb/day - component
 Calculation: $5 \text{ components} * 0.0741 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.07 \text{ ton/yr}$

Open-Ended Lines (Gas): 8 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.002 kg/hr - component or 0.1058 lb/day - component
 Calculation: $8 \text{ components} * 0.1058 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.16 \text{ ton/yr}$

Total open-ended line emissions (Oil & gas) = 0.07 ton/yr + 0.16 ton/yr = 0.23 ton/yr

Pumps (Oil): 3 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.013 kg/hr - component or 0.6878 lb/day - component
 Calculation: $3 \text{ components} * 0.6878 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.38 \text{ ton/yr}$

Pumps (Gas): 0 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0024 kg/hr - component or 0.127 lb/day - component
 Calculation: $0 \text{ components} * 0.127 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.00 \text{ ton/yr}$

Total pump emissions (Oil & gas) = 0.38 ton/yr + 0.00 ton/yr = 0.38 ton/yr

Valves (Oil): 50 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0025 kg/hr - component or 0.1323 lb/day - component
 Calculation: $50 \text{ components} * 0.1323 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 1.21 \text{ ton/yr}$

Valves (Gas): 50 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0045 kg/hr - component or 0.2381 lb/day - component
 Calculation: $50 \text{ components} * 0.2381 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 2.17 \text{ ton/yr}$

Total valve emissions (Oil & gas) = 1.21 ton/yr + 2.17 ton/yr = 3.38 ton/yr

Others (Oil): 3 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0075 kg/hr - component or 0.3968 lb/day - component
 Calculation: $3 \text{ components} * 0.3968 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.22 \text{ ton/yr}$

Others (Gas): 5 components in light oil service (≥ 20 API Gravity)
 Emission Factor: 0.0088 kg/hr - component or 0.4656 lb/day - component
 Calculation: $5 \text{ components} * 0.4656 \text{ lb/day-component} * 365 \text{ day/yr} * 0.0005 \text{ ton/lb} = 0.43 \text{ ton/yr}$

Total other emissions (Oil & gas) = 0.22 ton/yr + 0.43 ton/yr = 0.65 ton/yr

Total fugitive emissions – piping (6-FE) = 0.76 ton/yr + 0.21 ton/yr + 0.23 ton/yr + 0.38 ton/yr +
 $3.38 \text{ ton/yr} + 0.65 \text{ ton/yr} = 5.61 \text{ ton/yr}$

HAP Emissions

Basis for Emission Factors: EPA Protocol for Equipment Leak Emission Estimates, November 1995 (EPA-453/R-95-017)

HAP	Speciation Factor (% HAP in vapor phase)	VOC Emissions (ton/yr)	Control Efficiency (%)	HAP Emissions (ton/yr)
Benzene	0.0054	5.61	0	0.0303
Toluene	0.0559	5.61	0	0.3136
Ethylbenzene	0.0073	5.61	0	0.0410
Xylene	0.0089	5.61	0	0.0499
<u>Tolulene</u>	<u>0.0303</u>	<u>5.61</u>	<u>0</u>	<u>0.1700</u>
Total HAPs from Tanks				0.6048 ton/yr

H₂S Emissions:

Calculation: 0.01 lb/hr*8760 hr/yr * 0.0005 ton/lb = 0.04 ton/yr (HYSIS Flash Emission Estimation Program V.3.1)

Fugitive Emissions – Pneumatic Devices (7-PD)

VOC Emissions

Fuel Consumption Rate: 0.2 Scf/min or 12 Scf/hr (Company Information (EPA Estimate))
 Fuel Gas MW: 24.84 lb/lb-mole
 # of Pneumatic Devices: 5
 VOC Weight %: 0.0109

Weight % of VOC based on analysis of the fuel gas from the Elk Basin Gas Plant

Calculation: 12 Scf/hr * lb-mole/379 Scf * 24.84 lb/lb-mole * 0.0109 * 5 = 0.043 lb/hr
 0.043 lb/hr * 8760 hr/yr * 0.0005 ton/lb = 0.19 ton/yr

HAP Emissions

0 % HAPs based on analysis of the fuel gas from the Elk Basin Gas Plant

300 bbl Pop Tank (8-PT)

Production Vessels

Estimated Volume: 45000 scf/day (Company Information)
 Specific Gravity: 1.166
 Permit Limitation: 1600 Hours/Year (Requested by Company)
 Total Gas Vented: 170.53 Lb/Hr
 Annual Gas Vented 136.42 Tons/year (Permit Limited)

Flash Gas From Oil Production

Estimated Volume: 12000 scf/day (Company Information)
 Specific Gravity: 1.285
 Permit Limitation: 1600 Hours/Year (Requested by Company)
 Total Gas Vented: 50.115 Lb/Hr
 Annual Gas Vented 40.09 Tons/year (Permit Limited)

VOC Emissions:

Weight % of Total VOC = 41.9 % for Production Vessels (Company Information)
 Weight % of Total VOC = 71.33 % for Flash Gas (Company Information)

Calculation: 136.42 Tons Gas Vented*0.419 VOC% = 57.17 Tons VOC (Production Vessel Contribution)
 40.09 Tons Gas Vented*0.7133 VOC% = 28.60 Tons VOC (Flash Gas Contribution)
 57.17 ton/yr + 28.6 ton/yr = 85.77 tons/yr

HAP Emissions:

0.03 ton/yr (HYSIS Flash Emission Estimation Program V.3.1)

H₂S Emissions

Weight % of Total H₂S = 15.27 % for Production Vessels

Weight % of Total VOC = 1.11 % for Flash Gas

Calculation: 136.42 Tons Gas Vented*0.1527 H₂S % = 20.83 Tons H₂S (Production Vessel Contribution)
40.09 Tons Gas Vented*0.011 H₂S % = 0.45 Tons H₂S (Flash Gas Contribution)
20.83 ton/yr + 0.45 ton/yr = 21.28 tons/yr

Emergency Flare Pit (9-EF)

Fuel Consumption:	45,000 scf/day or 1875 scf/hr	(Company Information)
Control Efficiency:	98%	(Company Information)
Heat Content:	1575.3 btu/scf	(Company Information)
Specific Gravity:	1.166	(Company Information)
Heat Input Rate:	2.7880 mmBTU/hr	(Company Information)
Fuel Consumption:	1838 scf/hr	(Actual Fuel Consumption)
Permit Limitation:	1800 hours	(Company Requested)

PM₁₀ emissions:

Emission Factor: 0.000011 lb/scf (AP-42, Chapter 13.5 Industrial Flares 9/91)

Calculation: 1838 scf/hr*0.000011 lb/scf*1800 hr/yr*0.0005 ton/lbs = 0.02 ton/yr

NO_x Emissions:

Emission Factor: 0.138 lb/mmBTU (1983 CMA "A Report on a Flare Efficiency Study")

Calculation: 2.7880 mmBTU/Hr * 0.138 lb/mmBTU * 1800 hr/yr * 0.0005 ton/lbs = 0.35 ton/yr

CO Emissions:

Emission Factor: 0.2755 lb/mmBTU (1983 CMA "A Report on a Flare Efficiency Study")

Calculation: 2.7880 mmBTU/Hr * 0.2755 lb/mmBTU * 1800 hr/yr* 0.0005 ton/lbs = 0.69 ton/yr

VOC Emissions:

Weight % of Total VOC = 41.9 % for Production Vessels (Company Information)

Calculation: 3.06 Tons gas flared*0.419 VOC% = 1.29 Tons VOC

SO₂ Emissions:

Emission Factor: 0.0261 lb/scf (Based on H₂S concentration of 15.2685% by weight in flare gas)

Calculation: 1838 scf/hr * 0.0261 lb/scf * 1800 hr/yr * 0.0005 ton/lbs = 43.17 ton/yr

HAP Emissions:

0 % HAPs based on analysis of the fuel gas from the Elk Basin Gas Plant

H₂S Emissions:

Emissions rate: 3.41 Lb/hr (Based on 98% efficiency of Flare)

H₂S concentration: 15.2685% by weight in flare gas (Company Information)

Calculation: 3.41 lb/hr * .152685 % H₂S * 1800 hr/yr * 0.0005 ton/lbs = 0.47 ton/yr

V. Existing Air Quality

The Howell facility is located in eastern Montana in a sparsely populated area with generally very good ventilation throughout the year. The legal description of the facility is Section 28, Township 9 South, Range 23 East, in Carbon County, Montana. Carbon County is unclassifiable/attainment for the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants.

VI. Ambient Air Impact Analysis

The Department determined, based on the relatively small amount of emissions and the existing air quality in the area, that the impact from this permitting action will be minor. The Department believes the Howell facility will not cause or contribute to a violation of any ambient air quality standard.

Typically, flares are considered incinerators and must undergo a risk assessment analysis, however due to the presence of Hydrogen Sulfide in the flare (2-F) gas stream this is considered to be a safety flare which does not meet the definition of an incinerator in 75-2-103(11), MCA. Therefore, the requirements of 75-2-215, MCA do not apply.

VII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted a private property taking and damaging assessment and determined there are no taking or damaging implications.

VIII. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Howell Petroleum Corporation
Elk Basin Northwest Battery No. 12
P.O. Box 1330
Houston, TX 77251-1330

Air Quality Permit Number: 3299-00

Preliminary Determination Issued: 04/13/04

Department Decision Issued: 05/14/04

Permit Final: 06/02/04

1. *Legal Description of Site:* Howell Elk Basin Northwest Battery #12 is located in Carbon County, Montana. The legal description of the site is the Section 28, Township 9 South, Range 23 East, in Carbon County, Montana
2. *Description of Project:* This battery was constructed prior to November 23, 1968. However, since 1968, new wells have been drilled by both previous and current operators, which may have increased the facility's PTE of airborne pollutants by more than 25 tons per year. Howell stated in Permit Application #3299-00 that an accurate assessment of the actual increases caused by the post 1968 facility modifications (drilling of new wells) is difficult to determine due to the number of new wells drilled and the various operators during this time period. Therefore, Howell submitted a permit application to ensure compliance with the ARM 17.8.743(1)(d).
3. *Objectives of Project:* The project would provide Howell with a Montana Air Quality permit bringing the Elk Basin #12 tank Battery into compliance with the ARMs.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the "no-action" alternative. The "no-action" alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the "no-action" alternative to be appropriate because Howell demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the "no-action" alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT determination, would be included in Permit #3299-00.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Terrestrial and Aquatic Life and Habitats			X			Yes
B	Water Quality, Quantity, and Distribution			X			Yes
C	Geology and Soil Quality, Stability and Moisture			X			Yes
D	Vegetation Cover, Quantity, and Quality			X			Yes
E	Aesthetics			X			Yes
F	Air Quality			X			Yes
G	Unique Endangered, Fragile, or Limited Environmental Resources			X			Yes
H	Demands on Environmental Resource of Water, Air and Energy			X			Yes
I	Historical and Archaeological Sites			X			Yes
J	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic life and Habitats:

Minor impacts on terrestrial or aquatic life and habitats would be expected from the proposed project because the facility would be a source of air pollutants. While the facility would emit air pollutants, and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor due to dispersion characteristics of the pollutants and the atmosphere, and conditions that would be placed in Permit #3299-00. This is an existing facility and no additional land disturbance would occur at the facility. Small buildings have been constructed, the site has been graded, and gravel has been distributed over the property to minimize erosion. Overall, any impacts to terrestrial and aquatic life and habitats would be minor.

B. Water Quality, Quantity and Distribution:

Minor, if any, impacts would be expected on water quality, quantity and distribution from the proposed project because of the relatively small size of the project. The nearest surface water is Silver Tip Creek, which is located approximately ¾ mile west of the facility. While the facility would emit air pollutants and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA, the Department determined that, due to dispersion characteristics of gaseous pollutants (Sulfur Dioxide, oxides of Nitrogen, Volatile Organic Compounds) and the atmosphere, and conditions that would be placed in Permit #3299-00, the chance of deposition of pollutants impacting water quality, quantity and distribution would be minor. This facility will emit approximately 98.5 TPY of VOC's, 48.6 TPY SO_x, and less than 3 TPY each of CO and NO_x. This facility is primarily unmanned, therefore fugitive dust from vehicle traffic is very limited and impacts will be minimal. Overall, any impacts to water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because the facility exists. Any impacts to the geology and soil quality, stability and moisture from facility operations would be minor due to the relatively small size of the project. In addition, while deposition of pollutants would occur, as described in Section 7.F of this EA, the Department determined that the chance of deposition of pollutants impacting the geology and soil in the areas surrounding the site would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #3299-00. Overall, any impacts to the geology and soil quality, stability and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

Minor impacts would occur on vegetation cover, quantity, and quality because the facility already is constructed. Gravel has been distributed over the property to minimize erosion. Any impacts to the vegetation cover, quantity, and quality from facility operation would be minor due to the relatively small size of the project. In addition, while deposition of pollutants would occur, as described in Section 7.F of this EA, the Department determined that the chance of deposition of pollutants impacting the vegetation in the areas surrounding the site would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #3299-00. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

Minor impacts would result on the aesthetics of the area because this is an existing facility. In addition, the facility would create additional noise in the area. However, any aesthetic impacts would be minor due to the relatively small size of the facility.

F. Air Quality

The air quality of the area would realize minor impacts from the project because the facility would emit relatively small amounts of particulate matter less than PM₁₀, NO_x, CO, VOC, and SO_x emissions. Air emissions from the facility would be minimized by conditions that would be placed in Permit #3299-00. Conditions would include, but would not be limited to, an operational limitation of 1800 hours per any rolling 12-month time period on the emergency flare pit. While deposition of pollutants would occur as a result of operating the facility, the Department determined that any air quality impacts from deposition of pollutants would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed, wind direction, ambient temperature, etc.), and due to conditions that would be placed in Permit #3299-00. Therefore, only minor impacts to the existing air quality would be realized.

G. Unique Endangered, Fragile, or Limited Environmental Resources

In an effort to identify any unique endangered, fragile, or limited environmental resources in the area, the Department contacted the Montana Natural Heritage Program, Natural Resource Information System (NRIS). The NRIS search did not identify any species of special concern in the vicinity of the project area. In this case, the area was defined by the section, township, and range of the proposed location with an additional 1-mile buffer zone. Since the facility already exists, the relatively low levels of pollutants that would be emitted, dispersion

characteristics of pollutants and the atmosphere, conditions that would be placed in Permit #3299-00, and because the NRIS search did not identify any species of special concern in the vicinity of the project area, the Department determined that the chance of the project impacting any species of special concern would be minor.

H. Demands on Environmental Resource of Water, Air and Energy

The proposed project would have minor impacts on the demands on the environmental resources of air and water because the facility would be a source of air pollutants. However, the facility's potential to emit would be relatively small by industrial standards. While deposition of pollutants would occur, as explained in Section 7.F of this EA, the Department determined that the chance of the proposed project impacting demands on air and water resources would be minor due to dispersion characteristics of pollutants in the atmosphere, and conditions that would be placed in Permit #3299-00. Since this facility currently exists there will be increased demand on energy for this project.

I. Historical and Archaeological Sites

In an effort to identify any historical and archaeological sites near the proposed project area, the Department contacted the Montana Historical Society, State Historic Preservation Office (SHPO). According to SHPO records, there have not been any previously recorded historic or archaeological sites within the proposed area. In addition, SHPO records indicated that no previous cultural resource inventories have been conducted in the area. SHPO further stated that because of the no additional ground disturbance associated with the project there would be low likelihood that cultural properties would be impacted. Therefore, the Department determined that the chance of the project impacting any historical and archaeological sites in the area would be minor.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts on the physical and biological aspects of the human environment in the immediate area would be minor due to the relatively small size of the project. Potential emissions from the facility would be small by industrial standards and the emergency flare would only be operated in emergency situations (less than 3875 hours per year). The Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3299-00.

8. The following table summarizes the potential economic and social effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.

		Major	Moderate	Minor	None	Unknown	Comments Included
A	Social Structures and Mores				X		Yes
B	Cultural Uniqueness and Diversity				X		Yes
C	Local and State Tax Base and Tax Revenue			X			Yes
D	Agricultural or Industrial Production			X			Yes
E	Human Health			X			Yes
F	Access to and Quality of Recreational and Wilderness Activities			X			Yes
G	Quantity and Distribution of Employment				X		Yes
H	Distribution of Population				X		Yes
I	Demands for Government Services			X			Yes
J	Industrial and Commercial Activity			X			Yes
K	Locally Adopted Environmental Plans and Goals				X		Yes
L	Cumulative and Secondary Impacts			X			Yes

SUMMARY OF COMMENTS ON POTENTIAL ECENOMIC AND SOCIAL EFFECTS: The following comments have been prepared by the Department.

A. Social Structures and Mores

The project would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project is located in a remote area and has been in operation prior to November 23, 1968. The nearest home not associated with the project would be approximately 4 miles from the facility and the facility would be relatively small by industrial standards

B. Cultural Uniqueness and Diversity

The cultural uniqueness and diversity of the area would remain unchanged from the project (no impact) because the project is in a remote location and has been in operation prior to November 23, 1968. The nearest home not associated with the project would be approximately 4 miles from the facility and the facility would be relatively small by industrial standards.

C. Local and State Tax Base and Tax Revenue

The proposed project would result in minor, if any, impacts to the local and state tax base and tax revenue because the proposed project would not require new permanent employees to be hired (the facility would be an unmanned station). The oil produced by this facility is subject to state taxes levied by the Montana Board of Oil & Gas Conservation.

D. Agricultural or Industrial Production

The current land use of the proposed location is agricultural. Therefore, the proposed project would result in minor impacts to agricultural production because relatively small amounts of pollutants would be deposited on agricultural lands. While air emissions would continue to occur, as Section 7.F of this EA explains, the Department determined that the chance of deposition of pollutants impacting agricultural or industrial production in the areas surrounding the site would be minor due to dispersion characteristics of pollutants and the atmosphere, and conditions that would be placed in Permit #3299-00. The project would not have any impacts to industrial production because the proposed project would not displace any industrial land. Overall, any impacts to agricultural or industrial production would be minor.

E. Human Health

The proposed project would result in only minor, if any, impacts to human health because of the relatively small potential emissions. As explained in Section 7.F of this EA, deposition of pollutants would occur. However, the Department determined that the proposed project, permitted by Permit #3299-00, would comply with all applicable air quality rules, regulations, and standards. These rules, regulations, and standards are designed to be protective of human health.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed project would not have any impacts on access to recreational and wilderness activities because of the relatively small size of the facility. The proposed project would have minor, if any, impacts on the quality of recreational and wilderness activities in the area because the facility, while relatively small by industrial standards, would be visible and would produce noise.

G. Quantity and Distribution of Employment

The proposed project would not affect the quantity and distribution of employment because no additional permanent employees would be hired as a result of the proposed project. Impacts to the quantity and distribution of employment would be minor due to the relatively small size of the facility.

H. Distribution of Population

The proposed project would not affect distribution of population in the area because the facility would be located in a relatively remote location. The proposed project would not create any new permanent employment that would cause an increase in population in the area. In addition, the proposed project would not have impacts that would cause a decrease in the distribution of population in the surrounding area because the facility would be relatively small by industrial standards and the facility would only emit relatively small amounts of emissions.

I. Demands for Government Services

There would be minor impacts on demands of government services because additional time would be required by government agencies to issue Permit #3299-00 and to assure compliance with applicable rules, standards, and Permit #3299-00.

J. Industrial and Commercial Activity

Only minor impacts would be expected on the local industrial and commercial activity because the proposed project would represent only a minor increase in the industrial and commercial activity in the area. The proposed project would be relatively small and would take place at a relatively remote location.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would be affected by issuing Permit #3299-00. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, cumulative and secondary impacts from this project would result in minor impacts to the economic and social aspects of the human environment in the immediate area because of the relatively small size of the facility. Since this facility is small the industrial production, employment, and tax revenue (etc.) would not be significantly impacted by the proposed project. In addition, the Department believes that this facility could be expected to operate in compliance with all applicable rules and regulations as would be outlined in Permit #3299-00.

Recommendation: No EIS is required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The current permitting action is for the issuing of an existing crude oil tank battery. Permit #3299-00 includes conditions and limitations to ensure the facility will operate in compliance with all applicable rules and regulations. In addition, there are no significant impacts associated with this proposal.

Other groups or agencies contacted or which may have overlapping jurisdiction: Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

Individuals or groups contributing to this EA: Department of Environmental Quality – Air Resources Management Bureau, Montana Historical Society – State Historic Preservation Office, Natural Resource Information System – Montana Natural Heritage Program

EA prepared by: Brian D. Hohn

Date: April 7, 2004